

Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 13-0856

Investigator: RHM

System No:

Dry Wt/Wet Wt

K-40

RHB

Requestor: Roger Lupo

RHB

SAN ONOFRE

CDPH - RHB, 1500 Capitol Av., MS 7610

CA

Sacramento

95814-5006 CA

Phone Number:

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / Biota / SONGS C / 3rd Qtr 2013 Billing Agency: RHB

HASL Ga-01-R

0.382

Samples Received by Lab: 10/10/2013

pCi/g dry wt.

Parameter Method Result +/- CE MDA 95 Units Lab No: 13-0856-01 Sample ID: R 94042 Time Collected: 10/8/2013 12:00 Sampling Point: Spiny Lobster Sample Type: Fish/Shellfish

0.261

15.1 +/- 0.362



⁽¹⁾ Precision criteria for these method were determined to be acceptable.

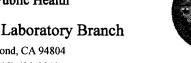
⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911 Collector Information Name: Dept./Branch: Address: Telephone No.: Sample Information System Name / Facility: Sampling Point (s): System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Raw Drinking Water Raw Treated (circle one): Chlorinated / Chloraminated / Chlorine Air Filters Finishing: Starting:	DWTPB FDB C EMB Other (Sp Surface Water VTP) Distribution System Dioxide / Ozonated / Peroxizone / Fluc Seawater Milk Wipes	☐ Wastewater ☐ Point of Use (POU)
Collector Information Name: Dept./Branch: Address: Telephone No.: Sample Information System Name / Facility: Sampling Point (s): System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Raw Groundwater Water Treatment Plant (M) Treated (circle one): Chlorinated / Chloraminated / Chlorine Air Filters Finishing:	Reporting Information Name: Dept./Branch: Address: Telephone No.: Billing Agency DWFOB() RHB DWTPB FDB DWTPB FDB DWTPB Other (Sp	R 94042 RWQCB() DTSC DWR CDFG Decify) Wastewater Point of Use (POU) Oridated / Coagulated / pH Adjusted Sludge (Semi-solid Samples) Soil/Sediment
Name: Dept./Branch: Address: Telephone No.: Sample Information System Name / Facility: Sampling Point (s): System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Raw Drinking Water Water Treatment Plant (M) Treated (circle one): Chlorinated / Chloraminated / Chlorine Air Filters Finishing:	Reporting Information Name: Dept./Branch: Address: Telephone No.: Billing Agency DWFOB() RHB DWTPB FDB EMB Other (Sp	DWR CDFG Decify) Wastewater Point of Use (POU) Dridated / Coagulated / pH Adjusted Sludge (Semi-solid Samples) Soil/Sediment
Dept./Branch: Address: Telephone No.: Sample Information System Name / Facility: Sampling Point (s): System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Raw Drinking Water Water Treatment Plant (M) Treated (circle one): Chlorinated / Chlorine Air Filters Finishing:	Dept./Branch: Address: Telephone No.: Billing Agency DWFOB() RHB DWTPB FDB EMB Other (Sp Surface Water VTP) Distribution System Dioxide / Ozonated / Peroxizone / Flucture Seawater Milk Wipes	DWR CDFG Decify) Wastewater Point of Use (POU) Dridated / Coagulated / pH Adjusted Sludge (Semi-solid Samples) Soil/Sediment
Telephone No.: Sample Information System Name / Facility: Sampling Point (s): System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Raw Water Treatment Plant (M) Treated (circle one): Chlorinated / Chloraminated / Chlorine Air Filters Date/Time Finishing:	Address: Telephone No.: Billing Agency DWFOB() RHB DWTPB FDB EMB Other (Sp Surface Water VTP) Distribution System Dioxide / Ozonated / Peroxizone / Fluct Seawater Milk Wipes	DWR CDFG Decify) Wastewater Point of Use (POU) Dridated / Coagulated / pH Adjusted Sludge (Semi-solid Samples) Soil/Sediment
Sample Information System Name / Facility: Sampling Point (s): System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Raw Water Treatment Plant (W) Treated (circle one): Chlorinated / Chloraminated / Chlorine Air Filters Date/Time Finishing:	Billing Agency DWFOB() RHB DWTPB FDB EMB Other (Sp Surface Water VTP) Distribution System Dioxide / Ozonated / Peroxizone / Fluct Seawater Milk Wipes	DWR CDFG Decify) Wastewater Point of Use (POU) Dridated / Coagulated / pH Adjusted Sludge (Semi-solid Samples) Soil/Sediment
System Name / Facility: Sampling Point (s): System No.: System No.: IYPE OF SAMPLE (Check all applicable boxes) Drinking Water Raw Water Treatment Plant (W) Treated (circle one): Chlorinated / Chloraminated / Chlorine Air Filters Date/Time Finishing:	DWFOB() RHB DDWTPB FDB DDWTPB DOTHER (Sp. Surface Water VTP) Distribution System Dioxide / Ozonated / Peroxizone / Flucture Seawater Milk Wipes	DWR CDFG Decify) Wastewater Point of Use (POU) Dridated / Coagulated / pH Adjusted Sludge (Semi-solid Samples) Soil/Sediment
System No.: TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Raw Water Treatment Plant (M) Treated (circle one): Chlorinated / Chloraminated / Chlorine Air Filters Date/Time Finishing:	Surface Water VTP) Distribution System Dioxide / Ozonated / Peroxizone / Fluc Seawater Milk Wipes	□ Wastewater □ Point of Use (POU) pridated / Coagulated / pH Adjusted □ Sludge (Semi-solid Samples) □ Soil/Sediment
TYPE OF SAMPLE (Check all applicable boxes) Drinking Water Groundwater Raw Water Treatment Plant (W Treated (circle one): Chlorinated / Chloraminated / Chlorine Air Filters Date/Time Finishing:	VTP) Distribution System e Dioxide / Ozonated / Peroxizone / Fluc Seawater Milk Wipes	Point of Use (POU) pridated / Coagulated / pH Adjusted USludge (Semi-solid Samples) USoil/Sediment
☐ Drinking Water ☐ Groundwater ☐ Raw ☐ Water Treatment Plant (W ☐ Treated (circle one): Chlorinated / Chloraminated / Chlorine ☐ Air Filters ☐ Date/Time Finishing:	VTP) Distribution System e Dioxide / Ozonated / Peroxizone / Fluc Seawater Milk Wipes	Point of Use (POU) pridated / Coagulated / pH Adjusted USludge (Semi-solid Samples) USoil/Sediment
☐ Air Filters Date/Time Finishing:	☐ Seawater ☐ Milk ☐ Wipes	☐ Sludge (Semi-solid Samples)☐ Soil/Sediment
Finishing:	☐ Milk ☐ Wipes	☐ Soil/Sediment
	☐ Wipes	
		Anna Conthis
		El Biota (Type): DUINY INDS
Net (M³)	□ Radon Canister	Other:
☐ Air Charcoal Cartridge		
COMMENTS: (Cautions, etc.):		
☐ Field Treatment: Preservatives added:		Other 1 December 1997
☐ Field Measurement:mR/hr		
☐ Rush/Priority (should be prearranged and have supervisory		
ANALYSIS REQUESTED (For questions, please call 510-620-		ed de l'impaire de l'impaire et de l'impaire e Annuel de l'impaire et de l'imp
☐ Gross Alpha ☐ Gross		
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☐ Total Radium ☐ Tritiui		Americium / Curium
☐ Radium-226 ☐ Carbo		
☐ Radium-228 ☐ Iodine		
	atium-89, 90 🔲 Isotopic	Uranium
☐ Other (Specify); ☐ Nicke	el-63	
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Date Name (Print)		Date
Time Custody Received Organization 2.	Signature	Time Custody Released
Date Name (Print)		Date
Time Custody Received Organization 3. 10-10-13	Signature	Time Custody Released
Date 15:45 Name (Print) DWKLB	Dutora M. O	Date
Time Custody Received Organization	Signature	Time Custody Released
LABORATORY REMARKS (Leave Blank) A. Condition at Time of Receipt:		
☐ Acceptable ☐ Broken Container	Leaked in Transit Constitution of the	☐ Improper Container ↓
Holding Time Exceeded Sample Not Cooled	□ / Insufficient Sample	
Preservatives/Carriers: □ Added in Laboratory	☐ Not Added /	Not Applicable



Drinking Water and Radiation Laboratory Branch





850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 13-0858

Investigator: RHM

RHB

Requestor: Roger Lupo

RHB

SAN ONOFRE Phone Number: CA

CDPH - RHB, 1500 Capitol Av., MS 7610 95814-5006

Sacramento

CA

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / Biota / SONGS C / 3rd Qtr 2013

System No:

Billing Agency: RHB

Samples Received by Lab: 10/10/2013

Parameter

Method

Result +/- CE

MDA 95

Units

Lab No: 13-0858-01

Sample Type: Fish/Shellfish

Sample ID:

R 94040

Time Collected: 10/8/2013

0.227

Sampling Point: Sheephead

Dry Wt/Wet Wt

K-40

HASL Ga-01-R

18.1 +/- 0.412

0.363

pCi/g dry wt



⁽¹⁾ Precision criteria for these method were determined to be acceptable.

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⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

Drinking Water and Radiation Laboratory Branc 850 Marina Bay Parkway, G164	:h	Date Rec 10-10-		13 No (Leave Black),
Richmond, CA 94804 510-620-2911		Date & Time 10 - 8 - 13	Control of the Contro	R 94040
Collector Information Name: Dept./Branch: Address:		Reporting Informa Name: Dept./Branch: Address:	ition	
Telephone No.:		Telephone No.:		
Sample Information System Name / Facility: Sampling Point (s): System No.:		Billing Agency DWFOB() DWTPB EMB	☐ FDB ☐ DV	WQCB() DTSC WR DCDFG
TYPE OF SAMPLE (Check all applicable boxes)				
☐ Drinking Water ☐ Groundwater ☐ Raw ☐ Water Treatm	ent Plant (WTP)	☐ Surface Water ☐ Distribution Syst	em 🔲 🚨	
Treated (circle one): Chlorinated / Chloraminate	ed / Chlorine Dio	xide / Ozonated / Per	oxizone / Fluorida	ted / Coagulated / pH Adjusted
☐ Air Filters Date/Ti Finishing: Starting: Net (M³) ☐ Air Charcoal Cartridge		☐ Seawater ☐ Milk ☐ Wipes ☐ Radon Canister	X	Sludge (Semi-solid Samples) Soil/Sediment Biota (Type): Shrephoa Other:
COMMENTS: (Cautions, etc.):				
☐ Field Treatment: Preservatives added:				
☐ Field Measurement:				
☐ Rush/Priority (should be prearranged and have				
ANALYSIS REQUESTED (For questions, please ca				
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☐ Total Uranium			□ NORM (Gam	
☐ Total Radium	☐ Tritium (³ H	•		ricium / Curium
□ Radium-226	☐ Carbon-14	•		onium
☐ Radium-228	☐ lodine-131		☐ Isotopic Thor	
☐ Radon-222	☐ Strontium-		☐ Isotopic Uran	
Other (Specify);	☐ Nickel-63		☐ Iron-55	
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Time Custody Received Organization 2.		Signature		Time Custody Released
Date Name (Print)				Date
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Date 15:45 Name (Print)	RLB	19 uto	raM-Q4	Date
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LABORATORY REMARKS (Leave Blank)				
A. Condition at Time of Receipt: □ Acceptable □ Broken C	ontainer lot Cooled	☐ Leaked in Trans☐ Insufficient Sam		□ Improper Container
B. Preservatives/Carriers; D. Added in: D. Added in:	Laboratory	D Not Added		Not Applicable



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 13-0857

Investigator: RHM

RHB

Requestor: Roger Lupo

RHB

SAN ONOFRE

CDPH - RHB, 1500 Capitol Av., MS 7610 95814-5006

CA

Sacramento

CA

Phone Number:

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / Biota / SONGS C / 3rd Qtr 2013 Billing Agency: RHB

Samples Received by Lab: 10/10/2013

Parameter

Method

Result +/- CE

MDA 95

Units

Lab No: 13-0857-01

Sample Type: Fish/Shellfish

Sample ID:

R 94041

Time Collected: 10/8/2013 10:15

0.117

Sampling Point: Calif Mussel

Dry Wt/Wet Wt

K-40

HASL Ga-01-R

10.9 +/- 0.368

0.899

pCi/g dry wt



⁽¹⁾ Precision criteria for these method were determined to be acceptable.

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⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

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				10-8-13		R 94041
	-			Reporting Info		
RHI	НМ	. 		Name: Dept./Branch: Address:		
	<u>.</u>			Telephone No.:		
: Sau				Billing Agency		
Sov	Sond	b c		DWFOB() DWTPB EMB	· · · · · · · · · · · · · · · · · · ·	DWR □ CDFG
	· · · · · · · · · · · · · · · · · · ·			<u> </u>	= 54.0. (5F-	ony)
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	0 '		atment Plant (Surface Wat (WTP) Distribution S ne Dioxide / Ozonated /	System	☐ Wastewater☐ Point of Use (POU)dated / Coagulated / pH Adjusted
		Date	e/Time	☐ Seawater		☐ Sludge (Semi-solid Samples)
				☐ Milk		Soil/Sediment
			 	☐ Wipes	•	Biota (Type): Cal Muss
				☐ Radon Canis	iter [Other:
ge					en 1949 - The Committee of the Committee	
			e call 510-620	y approval) 0-2911)		
			☐ Gro	ss Beta	☐ Gamma So	can
			□ Tota	al Beta (LSC)	☐ NORM (Ga	amma)
			Triti	um (³H)	☐ Isotopic Ar	nericium / Curium
			☐ Carl		☐ Isotopic Pla	
		Typer.	lodi		☐ Isotopic Th	
				ontium-89, 90	☐ Isotopic Ur	anium
			☐ Nick	(el-63	☐ Iron-55	
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California Department of Public Health



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 13-0764

Investigator: RHM

RHB

Requestor: Roger Lupo

RHB

SAN ONOFRE CA Sacramento

CDPH - RHB, 1500 Capitol Av., MS 7610

Phone Number:

CA 95814-5006

Site/Project Name: San Onofre NPP / Biota / SONGS A / 3rd Qtr 2013

Phone Number: 916-440-7955

System No:

Billing Agency: RHB

Samples Received by Lab: 10/3/2013

Units Method Result +/- CE **MDA** 95 **Parameter** Time Collected: 10/1/2013 15:45 Sampling Point: Spiny Lobster R 94036 Lab No: 13-0764-01 Sample ID: Sample Type: Biota Dry Wt/Wet Wt 0.255 11.4 +/- 0.290 0.344 pCi/g dry wt K-40 HASL Ga-01-R



⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

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Drinking Water and Radia 850 Marina Bay Parkway,		10-3-1	eived	Lab No. (Leave Blank) 13-07 64
Richmond, CA 94804		Date & Time	Sampled	_ Senal Number
510-620-2911		10-1-1		
Collector Information		Reporting Informa	ation	
Name: Dept./Branch:	RHM	Name: Dept./Branch:		
Address:	KHI	Address:		
Felephone No.:		Telephone No.:		
Sample Information		Billing Agency		
System Name / Facility: Sampling Point (s):	ougs 4	DWFOB() DWTPB	☐ FDB ☐ I	RWQCB() DTSC DWR DCDFG
System No.:		□ EMB	Other (Spec	cify)
YPE OF SAMPLE (Check	all applicable boxes)			
Drinking Water Raw	☐ Water Treatment Plant (WT	•	tem [
I Treated (circle one): @	nlorinated / Chloraminated / Chlorine D	ioxide / Ozonated / Per	oxizone / Fluono	lated / Coagulated / pH Adjusted
Air Filters	Date/Time	☐ Seawater		Sludge (Semi-solid Samples)
Finishing:		☐ Milk	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Soil/Sediment
		☐ Wipes		■ Biota (Type): <u>(a Splyw</u>
, Net (M³)		☐ Radon Canister		Other:
Air Charcoal Cartridge				
OMMENTS: (Cautions, e	tc.):	till kalta at stigered til et i		
	ervatives added:		Oth	ner:
Field Measurement:	mR/hr	☐ Radionuclide(s), if known:	
Rush/Priority (should be	prearranged and have supervisory ap	proval)		
NALYSIS REQUESTED (For questions, please call 510-620-29	11) / ar e d'e, e		
Gross Alpha	☐ Gross B	leta :	☐ Gamma Sc	an de la companya de
1 Total Uranium	☐ Total Be	eta (LSC)	☐ NORM (Ga	ımma)
Total Radium	☐ Tritium ((³ H)	☐ Isotopic An	nericium / Curium
Radium-226	☐ Carbon-	14	☐ Isotopic Plu	utonium
Radium-228	☐ Iodine-1	31	☐ Isotopic Th	orium
Radon-222	Strontiu	m-89, 90	☐ Isotopic Ura	anium
Other (Specify);	☐ Nickel-6	3	☐ Iron-55	
HAIN OF CUSTODY				
Date	Name (Print)			Date
Time Custody Received	Organization	Signature		Time Custody Released
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ABORATORY REMARKS	(Leave Slank)			
 Condition at Time of Rec 	eipt:			
☐ Acceptable ☐ Holding Time Exceed	☐ Broken Container Jed ☐ Sample Not Cooled	☐ Leaked in Trans ☐ Insufficient Sam	the control of the co	☐ Improper Container
. Preservatives/Carriers:				
AND ALCOHOLOGICAL PROPERTY OF THE PROPERTY OF	graph respect to the contract of the contract	 Construction of the Construction of the Construction		



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 13-0763

Investigator: RHM

RHB

Requestor: Roger Lupo

RHB

SAN ONOFRE

CDPH - RHB, 1500 Capitol Av., MS 7610 95814-5006

Sacramento

CA

Phone Number: 916-440-7955

Phone Number:

CA Site/Project Name: San Onofre NPP / Biota / SONGS A / 3rd Qtr 2013

System No:

Billing Agency: RHB

Samples Received by Lab: 10/3/2013

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 13-0763-01	Sample ID: R 94035 Sample Type: Biota	Time Collected: 10/1/2013	12:00 Sampling	Point: Mussels
Dry Wt/Wet Wt		0.165		
K-40	HASL Ga-01-R	9.95 +/- 0.293	7 0.542	pCi/g dry wt



⁽¹⁾ Precision criteria for these method were determined to be acceptable.

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Drinking Water and Dadiction Laboratory Duomah	
Drinking Water and Radiation Laboratory Branch 850 Marina Bay Parkway, G164	Date Received Lab No (Leave Blank)
Richmond, CA 94804	10-3-13 12-0-103 Page & Time Sampled Serial Number
510-620-2911	Pate & Time Sampled R 94035
Collector Information	Reporting Information
Name:	Name:
Dept./Branch: Address:	Dept./Branch: Address:
Telephone No.:	Telephone No.:
Sample Information	Billing Agency
System Name / Facility: Sampling Point (s): Sough AD B	DWFOB() RHB RWQCB() DTSC DWTPB DFDB DWR CDFG
System No.:	☐ EMB ☐ Other (Specify)
TYPE OF SAMPLE (Check all applicable boxes)	
☐ Raw ☐ Water Treatment Pla	□ Surface Water □ Wastewater Int (WTP) □ Distribution System □ Point of Use (POU) Iorine Dioxide / Ozonated / Peroxizone / Fluoridated / Coagulated / pH Adjusted
☐ Air Filters Date/Time	☐ Seawater ☐ Sludge (Semi-solid Samples)
Finishing:	☐ Milk ☐ Soil/Sediment
	_ ☐ Wipes ☐ Biota (Type): <u>MUSSE S</u>
Starting: Net (M ³)	☐ Radon Canister ☐ Other:
☐ Air Charcoal Cartridge	
COMMENTS: (Cautions, etc.):	
	lced/Frozen: Other:
	Radionuclide(s), if known:
	sory approval) The case the conservation was set as all the conservations and the
ANALYSIS REQUESTED (For questions, please call 510-	620-2911)
☐ Gross Alpha	
Gloss Alpila	Gross Beta Gamma Scan
	Gross Beta ☐ Gamma Scan Fotal Beta (LSC) ☐ NORM (Gamma)
☐ Total Uranium	
☐ Total Uranium ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	Fotal Beta (LSC) NORM (Gamma)
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☐ Total Uranium ☐ Total Radium ☐ Radium-226 ☐ Radium-228 ☐ □ Radium-228	Fotal Beta (LSC) □ NORM (Gamma) Fritium (³H) □ Isotopic Americium / Curium Carbon-14 □ Isotopic Plutonium
☐ Total Uranium ☐ Total Radium ☐ Radium-226 ☐ Radium-228 ☐ Radon-222 ☐ S	Fotal Beta (LSC) NORM (Gamma) Fritium (³H) Sarbon-14 Isotopic Plutonium Odine-131 Isotopic Thorium
☐ Total Uranium ☐ Total Radium ☐ Radium-226 ☐ Radium-228 ☐ Radon-222 ☐ Other (Specify); ☐ N	Fotal Beta (LSC) NORM (Gamma) Fritium (³H) Carbon-14 Ulsotopic Plutonium odine-131 Ulsotopic Thorium Strontium-89, 90 Isotopic Uranium
☐ Total Uranium ☐ Total Radium ☐ Radium-226 ☐ Radium-228 ☐ Radon-222 ☐ Other (Specify);	Fotal Beta (LSC) NORM (Gamma) Fritium (³H) Carbon-14 Ulsotopic Plutonium odine-131 Ulsotopic Thorium Strontium-89, 90 Isotopic Uranium
☐ Total Uranium ☐ Total Radium ☐ Radium-226 ☐ Radium-228 ☐ Radon-222 ☐ Other (Specify); ☐ CHAIN OF CUSTODY 1. ☐ Date Name (Print) ☐ Time Custody Received Organization	Fotal Beta (LSC) NORM (Gamma) Fritium (³H) Isotopic Americium / Curium Isotopic Plutonium odine-131 Isotopic Thorium Strontium-89, 90 Isotopic Uranium Nickel-63
☐ Total Uranium ☐ Total Radium ☐ Radium-226 ☐ Radium-228 ☐ Radon-222 ☐ Other (Specify); ☐ CHAIN OF CUSTODY 1. ☐ Date ☐ Name (Print)	Fotal Beta (LSC) NORM (Gamma) Fritium (³H) Isotopic Americium / Curium Isotopic Plutonium Odine-131 Isotopic Thorium Strontium-89, 90 Isotopic Uranium Nickel-63 Date
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☐ Total Uranium ☐ Total Radium ☐ Radium-226 ☐ Radium-228 ☐ Radon-222 ☐ Other (Specify); ☐ N CHAIN OF CUSTODY 1. ☐ Date Name (Print) ☐ Time Custody Received Organization 2. ☐ Date Name (Print) ☐ Time Custody Received Organization 3. ☐ O 3 ☐ Organization 4. ☐ Organization 4. ☐ Organization 5. ☐ Organization 6. ☐ Organization 7. ☐ Organization	Fotal Beta (LSC) Initium (³H) Isotopic Americium / Curium Isotopic Plutonium Isotopic Thorium Isotopic Uranium Isotopic Uranium Iron-55 Date Signature Signature Time Custody Released Date Time Custody Released
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Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 13-0762

Investigator: RHM

RHB

Requestor: Roger Lupo

RHB

SAN ONOFRE

CDPH - RHB, 1500 Capitol Av., MS 7610

CA

Sacramento

95814-5006

Phone Number:

Phone Number: 916-440-7955

CA

Site/Project Name: San Onofre NPP / Biota / SONGS B / 3rd Qtr 2013

System No:

Billing Agency: RHB

Samples Received by Lab: 10/3/2013

Parameter Method Result +/- CE **MDA** 95 Units Lab No: 13-0762-01 Sample ID: R 94034 Time Collected: 10/1/2013 09:30 Sampling Point: Sheephead Sample Type: Biota Dry Wt/Wet Wt 0.237 K-40 HASL Ga-01-R 13.6 +/- 0.343 0.405 pCi/g dry wt



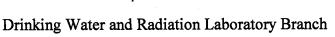
⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	PLE ANALYSIS (Radiochemical)	
Prinking Water and Radiation Laboratory Branch 850 Marina Bay Parkway, G164	10-3-13	Lab No. (Leave Blank)
Richmond, CA 94804	Date & Time Sampled	_ Serial Number
510-620-2911	10-1-13 9:30	R 94034
Collector Information	Reporting Information	
Name: Dept./Branch:	Name: Dept./Branch:	
Address: RHM	Address:	
Telephone No.: Sample Information	Telephone No.: Billing Agency	
System Name / Facility:		QCB() DTSC
Sampling Point (s): So was B	DWTPB DFDB DW	
System No.:	☐ EMB ☐ Other (Specify)	(<u></u>
TYPE OF SAMPLE (Check all applicable boxes)		
☐ Drinking Water ☐ Groundwater	Surface Water	Wastewater 3
☐ Raw ☐ Water Treatment Plant (W	TP) Distribution System	Point of Use (POU)
☐ Treated (circle one): Chlorinated / Chlorine	Dioxide / Ozonated / Peroxizone / Fluoridate	d / Coagulated / pH Adjusted
☐ Air Filters Date/Time	☐ Seawater ☐ S	Sludge (Semi-solid Samples)
Finishing:		Soil/Sediment ,
Starting:		Biota (Type): Sheephes
Net (M ³)		Other:
☐ Air Charcoal Cartridge		
COMMENTS: (Continue etc.)		
COMMENTS: (Cautions, etc.):		
☐ Field Treatment: Preservatives added:		
☐ Field Measurement:mR/hr		
Rush/Priority (should be prearranged and have supervisory a		
ANALYSIS REQUESTED (For questions, please call 510-620-2	911) , it against the problem that steeping.	
Gross Alpha		
	Beta (LSC)	
☐ Total Radium ☐ Tritium		
☐ Radium-226 ☐ Carbon		
□ Radium-228 □ Iodine		
	ium-89, 90 📮 Isotopic Uraniu	im in a control of the control of
☐ Other (Specify); ☐ Nickel-	-63	
CHAIN OF CUSTODY 1.		
Date Name (Print)		Date
Time Custody Received Organization	Clausa	Fire Control Delivered
2.	Signature	Time Custody Released
Date Name (Print)		Date
Time Custody Received Organization	Signature	Time Custody Released
3. 10-2-13 VA		
Date Name (Print)	1 July M. Chi	Date
Time Custody Received Organization	Signature Signature	Time Custody Released
LABORATORY REMARKS (Leave Blank)	A Company of the Comp	
A. Condition at Time of Receipt:		
☐ Acceptable ☐ Broken Container ☐ Holding Time Exceeded ☐ Sample Not Cooled	☐ Leaked in Transit I ☐ Insufficient Sample	☐ Improper Container
B. Preservatives/Carriers: ☐ Added While Sampling ☐ Added in Laboratory	☐ Not Added (☐ Not Applicable

California Department of Public Health





850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 13-0271

Investigator: RHM

RHB

Requestor: Roger Lupo

RHB

SAN ONOFRE Phone Number:

CDPH - RHB, 1500 Capitol Av., MS 7610

CA

Sacramento

95814-5006

CA

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / Biota / 2nd Qtr 2013

System No:

Billing Agency: RHB

Samples Received by Lab: 4/16/2013

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 13-0271-01	Sample ID: R 92398 Sample Type: Fish/Shellfish	Time Collected: 4/11/2013	10:33 Sampling Poin	nt: Cal Sheephead
Dry Wt/Wet Wt		0.2386		
K-40	HASL Ga-01-R	16.3 +/- 0.391	0.520	pCi/g dry wt

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	Laboratories Bra	ench		Da	ate Receive	ed .		Lab N	o. (Leave Bla	ank)
350 Marina Bay Parkway,				,	1 12	12				
Richmond, CA 94804					1-16-1				027#	,£
10-620-2911				Date	& Time Sai				erial Number	
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ollector Information ame:				Reporting In Name:	normatic	n				
ept./Branch:				Dept./Branch):					
ddress:	RHM	* * * * * * * * * * * * * * * * * * *		Address:						
elephone No.:				Telephone N				\$ * 		
ample information				Billing Agen	•					6.
ystem Name / Facility: ampling Point (s):	(n	1 0		DWFOB (CB()		
amping Form (5).	San One	0619	1	DWTPB EMB				₹	☐ CDI	-G
stem No.:		V	1			Other (Spi	echy)			
PE OF SAMPLE (Check	k all applicable box	(es)								
Drinking Water	Ground\		Hamb (MCCD)	Surface W	Vater			Vastewa		
Raw				Distributio	•				Jse (POU)	
Treated (circle one): Ci	morinated / Chiora	minateo / C	MOTINE DIOX	ue / Uzonate	a / Perox	zone / Fluc	oridate	d / Coa	guiated / pl-	Adjust
Air Filters	·	ate/Time		☐ Seawater			u s	ludge (S	Semi-solid S	Samples
Finishing:				☐ Milk			u s	oil/Sedi	ment	·
Starting:			. 1	☐ Wipes			□ B	iota (Tv	ne)· / _ /	di.
Net (M³)	· .		-	⊒ Radon Ca	nieter			thor	pe): (/ /	100
Air Charcoal Cartridge	· · · · · · · · · · · · · · · · · · ·		•	- Nadon Ca	HIISCOI			/lilei		
OMMENTS: (Cautions, e							Other:			
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DMMENTS: (Cautions, e Field Treatment: Pres Field Measurement: Rush/Priority (should be NALYSIS REQUESTED (Gross Alpha	servatives added:	mR/ have super ase call 51	/hr (visory appro 0-620-2911) Gross Beta	lced/Frozen: ⊒ Radionucl val)	lide(s), if	known:	Scan			
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Preservatives/Carriers:

Added While Sampling

☐ Not Applicable

Not Added

☐ Added in Laboratory

California Department of Public Health



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 13-0273

Investigator: RHM

System No:

RHB

Requestor: Roger Lupo

RHB

SAN ONOFRE CA

CDPH - RHB, 1500 Capitol Av., MS 7610

Sacramento

CA

95814-5006

Phone Number: 916-440-7955

Phone Number:

Site/Project Name: San Onofre NPP / Biota / 2nd Qtr 2013 Billing Agency: RHB

Samples Received by Lab: 4/16/2013

Parameter	Method	Result +/- CE	MDA 95	Units
Lab No: 13-0273-01	Sample ID: R 98802 Sample Type: Biota	Time Collected: 4/11/2013	10:20 Sampling Point	: Cal Spiny Lobster
Dry Wt/Wet Wt		0.2616		
K-40	HASL Ga-01-R	14.4 +/- 0.358	3 0.528	pCi/g dry wt

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

	REQUEST FOR SAMPLE			un dun ja kusariterid (k <u>. 1918</u> 6)
Drinking Water and Radia 850 Marina Bay Parkway, G Richmond, CA 94804		Date Rec	-13]	Lab No. (Leave Blank) 3 02 3 Serial Number
510-620-2911			11-13 1020	R 98802
Collector Information Name: Dept./Branch: Address:	RHM	Reporting Informa Name: Dept./Branch: Address:		
Telephone No.:		Telephone No.:		
Sample Information System Name / Facility: Sampling Point (s): System No.:	San Onafre	Billing Agency DWFOB() DWTPB EMB	RHB RWQC FDB DWR Other (Specify)	CDFG
TYPE OF SAMPLE (Check	all applicable hoxes)			
☐ Drinking Water ☐ Raw	Groundwater Water Treatment Plant (WTP) Iorinated / Chloraminated / Chlorine Diox	-	tem 🔲 Poir	stewater nt of Use (POU) Coagulated / pH Adjusted
☐ Air Filters	Date/Time	☐ Seawater	□ Sluc	dge (Semi-solid Samples)
Finishing:		☐ Milk	☐ Soil	/Sediment
Starting:		☐ Wipes	☐ Biot	a (Type): Calif. Spruy
Net (M ³)	<u> </u>	☐ Radon Canister		er: <u>lobster</u>
☐ Afr Charcoal Cartridge				
☐ Field Measurement:	ervatives added:mR/hr mR/or prearranged and have supervisory appro	☐ Radionuclide(s)), if known:	
ANALYSIS REQUESTED (F	For questions, please call 510-620-2911)		
☐ Gross Alpha	☐ Gross Beta	a	Gamma Scan	
☐ Total Uranium	☐ Total Beta	•	☐ NORM (Gamma)	
☐ Total Radium	☐ Tritium (³H	•	☐ Isotopic Americius	
Radium-226	☐ Carbon-14		☐ Isotopic Plutonium	n i i i i i i i i i i i i i i i i i i i
Radium-228	☐ lodine-131		☐ Isotopic Thorium	
☐ Radon-222 ☐ Other (Specify);	☐ Strontium-☐ Nickel-63	-09, 90	☐ Isotopic Uranium☐ Iron-55	
CHAIN OF CUSTODY	□ Nickei-03		U 11011-33	
1.				
Date	Name (Print)			Date
Time Custody Received 2.	Organization	Signature		Time Custody Released
Date	Name (Print)			Date
Time Custody Received 3.	Organization $\bigvee oldsymbol{\mu}$	Signature		Time Custody Released
Date	Name (Print)	127	NA DA	Date
2:30 Time Custody Received	Organization DWR 1 B	Signature C V AL X	mon ul	Time Custody Released
LABORATORY REMARKS A. Condition at Time of Rec Acceptable Holding Time Exceeds	eipt: Broken Container	☐ Leaked in Trans☐ Insufficient Sam		Improper Container
B. Preservatives/Carriers:Added While Sampling	g	□ Not Added		Not Applicable



Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 13-0272

Investigator: RHM

System No:

RHB

Requestor: Roger Lupo

RHB

SAN ONOFRE

CDPH - RHB, 1500 Capitol Av., MS 7610

CA

CA

Sacramento

95814-5006

Phone Number:

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / Biota / 2nd Qtr 2013

Billing Agency: RHB

Samples Received by Lab: 4/16/2013

Parameter	Method	Result +/- CE	MDA 95		Units
Lab No: 13-0272-01	Sample ID: R 98801 Sample Type: Fish/Shellfish	Time Collected: 4/11/2013	09:30	Sampling Point:	Cali Mussel
Dry Wt/Wet Wt		0.1154			
K-40	HASL Ga-01-R	10.4 +/- 0.320)	0.778	pCi/g dry wt

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

tille en in setyele fille gwerent i Sei	REQUEST FOR SAMPLE	ANALYSIS (Radio		gy die byteinen van de Hykainen gebe
Drinking Water and Radiati 850 Marina Bay Parkway, G1 Richmond, CA 94804	ion Laboratory Branch	2 Pate Reco	Sampled L	ab No. (Leave Blank) 13-0272 Serial Number
510-620-2911		Uate & Time s	- 13 9:30	R 98801
Collector Information Name: Dept./Branch: Address:	RHM	Reporting Information Name: Dept./Branch: Address:	tion	
Telephone No.:		Telephone No.:		
Sample Information System Name / Facility:	**************************************	Billing Agency		
Sampling Point (s):	ian Onofre		□ RHB □ RWQCI □ FDB □ DWR □ Other (Specify)	☐ CDFG
System No.: TYPE OF SAMPLE (Check a	ull annicable hoyes)			
☐ Drinking Water ☐ Raw				t of Use (POU)
☐ Air Filters	Date/Time	☐ Seawater		lge (Semi-solid Samples)
Finishing:		☐ Milk		Sediment
	· · · · · · · · · · · · · · · · · · ·	☐ Wipes		a (Type): <u>Calyl. Muss</u> e i
Net (M ³)		☐ Radon Canister	□ Othe	er:
☐ Air Charcoal Cartridge				
COMMENTS: (Cautions, etc.	s.):			
	rvatives added:			
		***), if known:	
	prearranged and have supervisory appro			
	or questions, please call 510-620-2911)		7 • • • • • • • • • • • • • • • • • • •	
Gross Alpha	☐ Gross Beta		Gamma Scan	
☐ Total Uranium	☐ Total Beta☐ Tritium (³H		□ NORM (Gamma)□ Isotopic Americiur	n / Curium
☐ Total Radium ☐ Radium-226	☐ Carbon-14	•	☐ Isotopic Plutonium	
Radium-226	lodine-131		☐ Isotopic Thorium	 Programme in the control of the contro
Radon-222	□ Strontium-l		☐ Isotopic Uranium	
Other (Specify);	☐ Nickel-63		☐ Iron-55	en e
CHAIN OF CUSTODY	74			
1.	Name (Print)			Date
•	Organization	Signature		Time Custody Released
2. Date	Name (Print)			Date
3. $4 - 16 - 13$	Organization Name (Print)	Signature		Time Custody Released Date
2:30	Organization DURLS	Signature	raM lle	Time Custody Released
LABORATORY REMARKS (A. Condition at Time of Rece	pipt:			
☐ Acceptable ☐ Holding Time Exceede	☐ Broken Container	☐ Leaked in Trans ☐ Insufficient Sam		Improper Container
B. Preservatives/Carriers: Added While Sampling	Added in Laboratory	□ Not Added	Ġ.	Not Applicable



California Department of Public Health



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 13-0245

Investigator: RHM

RHB

Requestor: Roger Lupo

RHB

SAN ONOFRE

Phone Number:

CA

CDPH - RHB, 1500 Capitol Av., MS 7610

Sacramento

CA

95814-5006

Phone Number: 916-440-7955

Site/Project Name: San Onofre NPP / Biota / 2nd Qtr 2013

System No:

Billing Agency: RHB

Samples Received by Lab: 4/5/2013

Parameter	Method	Result +/- CE	Į	MDA 95	Units
Lab No: 13-0245-01	Sample ID: R 92392 Sample Type: Biota	Time Collected: 4/3/2013	12:05	Sampling Point:	Sand Bass
Dry Wt/Wet Wt		0.2257			
K-40	HASL Ga-01-R	19.0 +/- 0.46	8	0.682	pCi/g dry wt

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particilar radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation L 850 Marina Bay Parkway, G Richmond, CA 94804 510-620-2911		Date Received 4 - 5 Date & Time So 4 - 3 - 1	.13 ampled 3 12:05	Lab No. (Leave Blank) 13-9244 Serial Number R 92392
Collector Information Name: Dept./Branch: Address:	KHW	Reporting Informati Name: Dept./Branch: Address:	on	
Telephone No.:		Telephone No.:		
	San Onofie	☐ DWTPB ` C	RHB RWQC FDB DWR Other (Specify)	CDFG
System No.:	all applicable bayes)			
TYPE OF SAMPLE (Check a Drinking Water Raw Treated (circle one): Chlo	Groundwater Water Treatment Plant (WTP) orinated / Chloraminated / Chlorine Dic		m 🛄 Poi	stewater nt of Use (POU) / Coagulated / pH Adjusted
☐ Air Filters	Date/Time	☐ Seawater	☐ Slu	dge (Semi-solid Samples)
Finishing:		☐ Milk	☐ Soi	/Sediment
Starting:		☐ Wipes	☑ Bio	ta (Type): Raied
Net (M ³)		☐ Radon Canister	Oth	ta (Type): <u>Bared</u> er: <u>Sand Bass</u>
☐ Air Charcoal Cartridge				
ANALYSIS REQUESTED (F	or questions, please call 510-620-291	1)		
Gross Alpha	☐ Gross Be		Gamma Scan	
☐ Total Uranium	☐ Total Beta ☐ Tritium (³l	` '	□ NORM (Gamma)□ Isotopic Americiu	*
☐ Total Radium ☐ Radium-226	☐ Carbon-1		☐ Isotopic America	
Radium-228	lodine-13		☐ Isotopic Thorium	
☐ Radon-222	☐ Strontium		☐ Isotopic Uranium	
Other (Specify);	☐ Nickel-63		☐ Iron-55	
CHAIN OF CUSTODY				
1. Date	Name (Print)			Date
Time Custody Received	Organization	Signature		Time Custody Released
2. Date	Name (Print)			Date
Time Custody Received 3.	Organization () A	Signature		Time Custody Released
Date	Name (Print)	19-1	an Oli	Date
Time Custody Received	Organization	Signature	Co III. Serie	Time Custody Released
LABORATORY REMARKS A. Condition at Time of Reco Acceptable Holding Time Exceeds B. Preservatives/Carriers:	elpt: Broken Container ed Sample Not Cooled	Leaked in Transit	le F. S. S.	Improper Container
☐ Added While Samplin	g Added in Laboratory	Not Added		Not Applicable



California Department of Public Health



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 13-0244

Investigator: RHM

RHB

Requestor: Roger Lupo

RHB

SAN ONOFRE

CDPH - RHB, 1500 Capitol Av., MS 7610

CA

Sacramento

95814-5006 CA

Phone Number:

Phone Number: 916-440-7955

System No:

Site/Project Name: San Onofre NPP / Biota / 2nd Qtr 2013 Billing Agency: RHB

Samples Received by Lab: 4/5/2013

Parameter Method Result +/- CE **MDA** 95 Units R 92391 Time Collected: 4/3/2013 12:00 Sampling Point: Californai Lab No: 13-0244-01 Sample ID: Sheephead Sample Type: Biota Dry Wt/Wet Wt 0.229K-40 HASL Ga-01-R 21.3 +/- 0.504 0.524 pCi/g dry wt

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

		OK SAMPLE	ANALYSIS (Radio		
Sanitation and Radiation 850 Marina Bay Parkway, Richmond, CA 94804			Date Reco	13	Lab No. (Leave Blank) 13_02 44 Serial Number
510-620-2911			4-3-		
Collector Information			Reporting Informa		R 92391
Name:			Name:	uon	
Dept./Branch:			Dept./Branch:		ti jako 🔀
Address:			Address:		
Telephone No.: Sample Information			Telephone No.:		
System Name / Facility: Sampling Point (s):	San Onobie		☐ DWTPB	☐ FDB ☐ DWI	QCB() DTSC R DCDFG
TYPE OF SAMPLE (Check	k all applicable boyes)	·	<u> </u>		
☐ Drinking Water ☐ Raw	Groundwater Water Treatmer	nt Plant (WTP) / Chlorine Diox	Surface Water Distribution Systemide / Ozonated / Pere	em	Vastewater Point of Use (POU) ed / Coagulated / pH Adjusted
☐ Air Filters	Date/Tim	е	☐ Seawater		Sludge (Semi-solid Samples)
Finishing:			☐ Milk		Soil/Sediment
Starting:			☐ Wipes		Biota (Type): <u>Calif Sheet</u>
Net (M ³)			☐ Radon Canister		- II T
☐ Air Charcoal Cartridge			A Radon Canister	<u> </u>	Other: Head
V:				· · · · · · · · · · · · · · · · · · ·	
COMMENTS: (Cautions, e				· · · · · · · · · · · · · · · · · · ·	
☐ Field Treatment: Pres					
☐ Field Measurement:			☐ Radionuclide(s),	if known:	
Rush/Priority (should be	prearranged and have su	pervisory appro	oval)		
ANALYSIS REQUESTED (For questions, please call	510-620-2911)			
☐ Gross Alpha		☐ Gross Beta		☐ Gamma Scan	
☐ Total Uranium		☐ Total Beta	(LSC)	☐ NORM (Gamm	a)
□ Total Radium		☐ Tritium (³ H)		☐ Isotopic Americ	
☐ Radium-226		☐ Carbon-14		☐ Isotopic Pluton	ium
☐ Radium-228		☐ lodine-131		☐ Isotopic Thoriu	m ·
☐ Radon-222		☐ Strontium-8	9, 90	☐ Isotopic Uraniu	m
Other (Specify);		☐ Nickel-63		☐ Iron-55	
CHAIN OF CUSTODY					
1. Date	Name (Print)				Date
Time Custody Received 2.	Organization		Signature		Time Custody Released
Date	Name (Print)				Date
Time Custody Received 3. 4/- 5-13	Organization		Signature		Time Custody Released
Date	Name (Print)) , v	79	1.	Date
Time Custody Received	Organization DWK	(LB	Signature Jul	ma Willi	Time Custody Released
LABORATORY REMARKS A. Condition at Time of Rec Acceptable Holding Time Exceed	elpt: Broken Cont		☐ Leaked in Transit☐ Insufficient Sampl		
B. Preservatives/Carriers:Added While Sampling	ng 🔲 Added in Lat	oratory	□ Not Added) Not Applicable

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940



FINAL Analysis Results Report for Task ID. 13-0246

Investigator: RHM

RHB

Requestor: Roger Lupo

RHB

SAN ONOFRE

CDPH - RHB, 1500 Capitol Av., MS 7610

CA

Sacramento

95814-5006 CA

Phone Number: 916-440-7955

Phone Number:

Site/Project Name: San Onofre NPP / Biota / 2nd Qtr 2013

Samples Received by Lab: 4/5/2013

System No:

Parameter

Billing Agency: RHB

Units

Method

Result +/- CE

MDA 95

Lab No: 13-0246-01

Sample ID:

Sample Type: Biota

R 92393

Time Collected: 4/3/2013

0.2690

09:45

Sampling Point: Spiny Lobster

Dry Wt/Wet Wt

K-40

HASL Ga-01-R

6.81 + / -0.238

0.672

pCi/g dry wt

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation 850 Marina Bay Parkway, G Richmond, CA 94804 510-620-2911		Date Received 4-5-13 Date & Time Sampled 4-3-13 9:45	Lab No. (Leave Blank) 13-024(6) Serial Number R 92393
Collector Information Name: Dept./Branch: Address:	KHW	Reporting Information Name: Dept./Branch: Address:	
Telephone No.: Sample Information System Name / Facility: Sampling Point (s):	San Duglie		RWQCB() DTSC DWR DCDFG
System No.:		G ENIB G OTICI (Opec	
TYPE OF SAMPLE (Check Drinking Water Raw Treated (circle one): Ch		☐ Distribution System	☐ Wastewater☐ Point of Use (POU) dated / Coagulated / pH Adjusted
☐ Air Filters Finishing: Starting: Net (M³) ☐ Air Charcoal Cartridge	Date/Time	☐ Milk ☐ Wipes ☐	Sludge (Semi-solid Samples) Soil/Sediment Biota (Type): <u>Lad Spiny</u> (0)
COMMENTS: (Cautions, et	· ·		
☐ Field Measurement:	ervatives added:mR/hrmgranged and have supervisory appro	☐ Radionuclide(s), if known:	her
	For questions, please call 510-620-2911		
☐ Gross Alpha ☐ Total Uranium	☐ Gross Beta☐ Total Beta	Gamma So (LSC) U NORM (Ga	amma)
☐ Total Radium ☐ Radium-226 ☐ Radium-228	☐ Tritium (³H☐ Carbon-14☐ lodine-131☐	☐ Isotopic Pl ☐ Isotopic Tr	orium
Radon-222 Other (Specify);	☐ Strontium- ☐ Nickel-63	39, 90 ☐ Isotopic Ur ☐ Iron-55	anium
CHAIN OF CUSTODY	G Nicker-03	U 11011-33	
Jate	Name (Print)		Date
Time Custody Received 2. Date	Organization Name (Print)	Signature	Time Custody Released
Time Custody Received 3. (1-5-13	Organization	Signature	Time Custody Released
Date Time Custody Received	Name (Print) Organization	Signature Juliano W. U.	Date Time Custody Released
LABORATORY REMARKS A. Condition at Time of Rec C Acceptable C Holding Time Exceed	eipt: Broken Container	. U Leaked in Transit O Insufficient Sample	☐ Improper Container
B. Preservatives/Carriers: Added While Samplin	g	□ Not Added	□ Not Applicable →

Drinking Water and Radiation Laboratory Branch



850 Marina Bay Parkway, Richmond, CA 94804 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. 13-0247

Investigator: RHM

RHB

Requestor: Roger Lupo

RHB

SAN ONOFRE

CDPH - RHB, 1500 Capitol Av., MS 7610

CA

Sacramento

95814-5006 CA

Phone Number:

Site/Project Name: San Onofre NPP / Biota / 2nd Qtr 2013

Phone Number: 916-440-7955

System No:

Billing Agency: RHB

Samples Received by Lab: 4/5/2013

Parameter	Method	Result +/- CE		MDA 95	Units
Lab No: 13-0247-01	Sample ID: R 92394 Sample Type: Biota	Time Collected: 4/3/2013	09:15	Sampling Point:	California Mussel
Dry Wt/Wet Wt		0.1451			L . A
K-40	HASL Ga-01-R	23.7 +/- 0.646	5	1.15	pCi/g dry wt

⁽¹⁾ Precision criteria for these method were determined to be acceptable.

⁽²⁾ CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980.

⁽³⁾ MDA95 is the sample specific minimum detectable activity at the 95% confidence level which is the LLD95 devided by 2.22, the efficiency, and the yield, and may include factors for abundance, decay, and ingrowth, dependent on the particular radionuclide. LLD95 is defined in section 7010G, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the aquare root of the instrument background count rate.

and the second of the second o	REQUEST FOR SAMP					
Sanitation and Radiation			Received	Lab No. (Leave Blank)		
850 Marina Bay Parkway, G164 Richmond, CA 94804		The state of the s	4-5-13 13-0247			
510-620-2911			me Sampled	Serial Number		
			3/13 9:15	R 92394		
Collector Information		Reporting Infor	mation			
Name:	O II M	Name: Dept./Branch:				
Dept./Branch: Address:	RHM	Address:				
Marcoo.						
Telephone No.:		Telephone No.:				
Sample Information System Name / Facility:		Billing Agency DWFOB()	□ RHB □ RW	/QCB() DTSC		
Sampling Point (s):	San Ondie	DWTPB		R CDFG		
		□ ЕМВ)		
System No.:		<u> </u>				
TYPE OF SAMPLE (Check						
Drinking Water Raw	GroundwaterWater Treatment Plant (WT	Surface Water	er U	Wastewater Point of Use (POU)		
	hlorinated / Chloraminated / Chlorine [Dioxide / Ozonated /	Peroxizone / Fluorida			
1 Treated (Circle Offe). Of						
Air Filters	Date/Time	☐ Seawater		Sludge (Semi-solid Samples)		
Finishing:		☐ Milk		Soil/Sediment		
Starting:		☐ Wipes		Biota (Type): Cal musse		
Net (M³)		Radon Canis	ter 🚨	Other:		
Air Charcoal Cartridge						
COMMENTO, (Continuo d						
Comments: (Cautions, 6	etc.):servatives added:	lced/Erozen:	Othe			
	mR/hr		5(5), II KIIOWII.			
	e prearranged and have supervisory a					
ANALYSIS REQUESTED	(For questions, please call 510-620-29	911)				
☐ Gross Alpha	☐ Gross I		Gamma Scar			
☐ Total Uranium	☐ Total B		□ NORM (Gam			
☐ Total Radium	☐ Tritium			ricium / Curium		
Radium-226	☐ Carbon		Isotopic Pluto			
Radium-228			☐ Isotopic Thor			
Radon-222		ım-89, 90	☐ Isotopic Uran	ium		
Other (Specify);	Nickel-	63	☐ Iron-55			
CHAIN OF CUSTODY			in the second of the second o			
Date	Name (Print)			Date		
		· · · · · · · · · · · · · · · · · · ·				
Time Custody Received	Organization	Signature		Time Custody Released		
Date	Name (Print)			Date		
Time Custody Received 3. /1-5-13	Organization A	Signature		Time Custody Released		
Date 4-5-13	Name (Print)	~ 5)	Date		
1:30	Durlb	$\frac{1}{2}$	ulono W.a			
Time Custody Received	Organization	Signature ²		Time Custody Released		
ABORATORY REMARKS						
 Condition at Time of Re 		☐ Leaked in T		☐ Improper Container		
 Acceptable Holding Time Excee 		☐ Leaked in T		☐ Improper Container		
3. Preservatives/Carriers:						
Added While Sample	ing Added in Laboratory	Not Added		□ Not Applicable		